SITE HAZARD ASSESSMENT
WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:
Kitsap Rifle & Revolver Club
4900 Seabeck Hwy NW
Bremerton, WA 98312

Section/Township/Range: 36/25N/1W
Latitude: 47.60853 º
Longitude: -122. 74683º
Ecology Facility Site ID No.: 18708
Parcel # 362501-4-002-1006

Site scored/ranked for the August 2013 Hazardous Sites List update
August 7, 2013

SITE DESCRIPTION:

The Kitsap Rifle & Revolver Club (KRRC) site is a 70 acre commercial site located 7 miles northwest of Bremerton, WA. The site is currently owned and operated by KRRC. The current use of the property is as a shooting range and gun club. The site itself is on the north side of Seabeck Hwy NW. Figure 1 attached is a vicinity map. The property is relatively flat near the road with a hill to the southeast and wetlands to the north and west. Maximum slopes on the property are in excess of 20%. There are at least 5 structures on the property. Roughly 80% of the property is a wetlands or forest. The 70 acre parcel owned by KRRC is situated next to and is a part of the watershed of Chico Creek, a salmon stream. The 2003 Kitsap Salmonid Refugia Report states:

> "The headwaters of Chico Creek, within Lost (WRIA 15.0234) and Wildcat (WRIA 15.0238) tributaries are important spawning and rearing habitat for coho and steelhead, as well as resident cutthroat."

The property has been in use as a gun range since 1926. The land was owned by the Washington State Department of Natural Resources (DNR) until 2008, at which time the property was acquired by Kitsap County, as part of a land swap with DNR. Shortly thereafter, the County deeded the property over to KRRC. Onsite is a 50 yard pistol range with a covered shooting line, a 200 yard rifle range with a covered shooting line, and about eight small sport pistol ranges. There are two trailers used as classrooms and for meetings, and a range store and office building. The site is served by a drinking water well. Ground water in the area appears to be shallow. See the attached map, from the Washington State Department of Ecology, showing soil depth to groundwater (Figure 2).

Previous Studies/History of contamination

The site was added to the Confirmed and Suspected Contaminated Sites list in August of 2010 after an Initial Investigation (ERTS #613947). The investigation showed that the site was likely contaminated with lead from the years of shooting with limited formal lead recovery program. Permission to sample onsite was denied during the Initial Investigation. The Environmental Protection Agency (EPA) later conducted sampling (Kitsap Rifle & Revolver Club Integrated Site Assessment, November 2011) at

the site confirming lead, antimony, arsenic, copper, cadmium, vanadium, and carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) above applicable levels in the Model Toxics Control Act for soils or sediments.

The following reports on KRRC were reviewed for this assessment:

- Kitsap Rifle & Revolver Club Integrated Site Assessment, US EPA Region 10, November 2011
- Kitsap Rifle & Revolver Club Initial Investigation Field Report, Kitsap Public Health District, August 18, 2010

See Table 1 for all samples that exceed MTCA levels in soil. Sediment exceedances were found for lead. See Table 2 for sediment exceedances.

Table1. Soil sampling exceedances of MTCA (mg/kg)

Sample Station	**Metals**				**SVOCs**
	Antimony	**Arsenic**	**Copper**	**Lead**	**Benzo(a)pyrene**
BK01SS	0.75	2.9	14.6	4.7	<0.2
RR01SS	29.3	1.9	40.3	1750	<0.18
RR02SS	5.1	1.5	19.8	364	0.068
RR03SS	283	6.4	522	22500	1.9
RR04SS	112	2.5	96.6	5420	0.47
PR01SS	249	15.4	4430	17200	4.3
PR02SS	1080	36.2	1440	37000	10
PR03SS	1100	39.8	1430	53400	7.7
PR04SS	463	46	2340	46400	10
SR01SS	502	35.5	681	21700	3.4
SR02SS	459	34.1	3050	18500	0.86
SR03SS	364	43.3	421	20600	3.8
SR04SS	364	39.5	634	15600	2.3
SR05SS	416	27.4	303	18700	0.87
SR06SS	322	31.6	423	12900	2.4
RF01SS	0.48	1.3	14	13.5	0.011
MTCA Standard	**32**	**20**	**3200**	**250**	**0.1**

Figure 3 attached shows the sampling locations from the EPA Site Assessment.

Table 2. Soil/sediment sampling exceedances of MTCA (mg/kg)

Sample Station	Lead
BK01SD	4.3
BK02SD	16.6
WL01SD	162
WL02SD	1030
WL03SD	1170
WL04SD	780
WL05SD	1260
WL06SD	34.3
MTCA Standard	**250**

The results presented in Table 1 and 2 do not include all of the results in the record, but only those results where a sample showed a result exceeding MTCA.

Site Inspections

Multiple site inspections have been conducted by Health District staff prior to this SHA. Health District staff conducted the Initial Investigation at this site in 2010. As a part of the Initial Investigation at least three site visits were made to the site. A site visit was conducted on the KRRC property on July 19, 2012. Health District Staff met with members of KRRC and toured the facility.

Three site visits have been conducted to the areas around KRRC checking to see if any of the bullets found in the Newberry Hill Heritage Park to the north could have come from firing at KRRC. Investigation identified both bullets and casings found on the park property leading to the conclusion that shooting associated with artifacts took place on park property and therefore could not be attributed to KRRC.

These site inspections confirmed the physical aspects of the properties and gave staff some familiarity with the site and surrounding area.

Potential Sources of Contamination

The likely sources of contamination at KRRC are the metal in the bullets and shot from the firing of pistols, shotguns and rifles. The majority of bullets from pistols, shotguns and rifles are lead. Bullets and shot may also contain copper, antimony, nickel, zinc, cadmium, and arsenic. The impact areas of the ranges at KRRC are (mostly) sand berms. The rifle range impact area at 200 yards is an exposed soil face approximately 40 to 50 feet high. This soil face is cemented gray till. KRRC has been in operation for approximately 86 years. The level of use of the range has varied over the years. There

are indications that the use has been heavy over the last 5 years or so. In addition, the ranges at KRRC have had a limited formal lead recovery program. Members have mined limited amounts of lead from the impact berms. In the last two years or so KRRC has started documenting the amounts of lead removed from the range. None the less, it is likely that a great deal of lead remains in the berms and impact areas at the various ranges. In addition, fragments and ricochets from the berms on the main pistol line have likely landed in the wetlands behind the impact berm. The cPAH source may be from clay targets on the rifle range, which doubles as the shotgun range.

Surface Water

Wetland areas are known to exist on the KRRC property. Wetlands are also located on the property to the north, and southwest of KRRC. Surface water generally flows to the west towards Hood Canal, and bends back to the east as headwaters to Chico Creek. Chico Creek is a salmon bearing stream. See the attached map for further details (Figure 4).

Drinking Water Wells

Drinking water wells within two miles of the site include Group A (2), Group B (17), and private well systems which serve a total of 10,000 or more persons. Local drinking water wells are down gradient of the site with the closest public well being approximately 400 feet from the site. There is at least one private drinking water well at the site in use. Sampling of the well shows no exceedances of MTCA levels. See the attached well log and sample results (Figure 5).

Air Emissions

Particulate emission is a possible migratory pathway for the metals from the soils. Movement of particulates to air from the soils at the KRRC is low due to the Kitsap County climate. However, the contaminated soil is at the ground surface which maximizes the exposure. Although the adjacent land is primarily undeveloped, there is one housing development within the half mile radius of KRRC. The estimated number of persons in the half mile radius is 73 based on an average of 2.3 people per household.

SHA Sampling

Sampling was conducted off of the KRRC property, on July 2, 2012, in a water channel leading from KRRC towards Chico Creek. The water samples were analyzed for dissolved metals. All results came back below MTCA levels for surface water. Three samples were taken: one above the site for background and two below. See the Sampling and Analysis Plan and analytical results for these sample results.

SPECIAL CONSIDERATIONS (include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):

1) US Navy Camp Wesley Harris (FS ID 2603), which is on the Confirmed and Suspected Contaminated Sites list and is ranked a 2, is immediately adjacent to the east. Camp Wesley Harris is

a US Navy and US Marine Corps shooting range. Cross contamination from this range to KRRC is possible.

2) Directly to the north of the KRRC site is the Kitsap County Newberry Hill Heritage Park. This park was recently established (2008) and prior to the park the site was owned by Washington State Department of Natural Resources (DNR). This DNR land was open to the public and shooting on the property was allowed. Evidence of persons shooting in the park consisting of both bullets and shells was observed on the ground at Kitsap County Newberry Hill Heritage Park. Cross contamination from this site to KRRC is possible.

3) Although the well log for the well placed on the KRRC does not indicate discovery of groundwater before a depth of 349 feet, information from the US Department of Agriculture, National Resource Conservation Service, indicates that groundwater lies at a minimum depth of 0 – 25 cm below ground surface. In addition to this is the presence of standing water in wetlands on the site. These two facts are used in the determination, for this SHA, of a depth to groundwater of 0 to 25 feet.

ROUTE SCORES:

Surface Water/Human Health:	**NS**	Surface Water/Environmental:	**NS**
Air/Human Health:	**16.5**	Air/Environmental:	**NS**
Groundwater/Human Health:	**65.7**		

OVERALL RANK: 2

WORKSHEET 2
Route Documentation

1. **SURFACE WATER ROUTE –**

   a. List those substances to be considered for scoring: Source: 1, 2, 3, 4

      Not scored

   b. Explain basis for choice of substance(s) to be used in scoring.

   c. List those management units to be considered for scoring: Source: 1, 2, 3, 4

   d. Explain basis for choice of unit to be used in scoring:

2. **AIR ROUTE –**

   a. List those substances to be considered for scoring: Source: 1, 2, 3, 4

      Arsenic, antimony, copper, and lead

   b. Explain basis for choice of substance(s) to be used in scoring:

      These substances were detected in soil, and sediment at the site in concentrations exceeding their respective MTCA cleanup levels.

   c. List those management units to be considered for scoring: Source: 1, 2, 3, 4

      Air and groundwater

   d. Explain basis for choice of unit to be used in scoring:

      The contaminating substances were detected in soil samples. Arsenic, antimony, copper, and lead were found in concentrations exceeding MTCA cleanup levels

3. **GROUNDWATER ROUTE-**

   a. List those substances to be considered for scoring: Source: 1, 2, 3, 4

      Arsenic, antimony, copper, and lead

   b. Explain basis for choice of substance(s) to be used in scoring:

      These substances were detected in soil at the site in concentrations exceeding their respective MTCA cleanup levels.

   c. List those management units to be considered for scoring: Source: 1, 2, 3,4

      Air and groundwater

   d. Explain basis for choice of unit to be used in scoring:

   The contaminating substances were detected in soil samples. Arsenic, antimony, copper, and lead were found in concentrations exceeding MTCA cleanup levels.

WORKSHEET 5
AIR ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.2 Human Toxicity

	Substance	Air Standard (µg/m³)	Value	Acute Toxicity (mg/ m³)	Value	Chronic Toxicity (mg/kg/day)	Value	Carcinogenicity		Value
								WOE	PF*	
1	Arsenic	0.00023	10	-	ND	-	ND	1.75	A	9
2	Antimony	1.7	9	-	ND	-	ND	-	-	ND
3	Copper	3.3	9	-	ND	-	ND	-	-	ND
4	Lead	0.5	10	-	ND	-	ND	-	-	ND

** Potency Factor*

Source: 1, 6

Highest Value: 10
(Max = 10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 12
(Max = 12)

1.3 Mobility (Use numbers to refer to above listed substances)

	1.3.1 Gaseous Mobility		1.3.2 Particulate Mobility		
	Vapor Pressure(s) (mmHg)	Value	Soil Type	Erodibility	Climatic Factor
1	-	-	Coarse Sand	73	1-10
2	-	-	Coarse Sand	73	1-10
3	-	-	Coarse Sand	73	1-10
4	-	-	Coarse Sand	73	1-10

Source: 2, 3

Value: 0 (Max = 4)

Source: 1, 11

Value: 3

1.4 Highest Human Health Toxicity/ Mobility Matrix Value (from Table A-7)

Final Matrix Value: 6
(Max = 24)

1.5 Environmental Toxicity/Mobility

	Substance	Non-human Mammalian Inhalation Toxicity (mg/m³)	Acute Value	Mobility (mmHg)	Value	Matrix Value
1	This route not scored per					

2	WARM Manual page A-7 Section 1.5					
3	Substances have no non human					
4	mammalian inhalation toxicity					

Highest Environmental Toxicity/Mobility Matrix Value (from Table A-7) = **Final Matrix Value: 0**
(Max = 24)

1.6 Substance Quantity (areal extent)	
Explain Basis: Contaminated soil > 1.55 and < 7.8 acres	Source: 1,2,3 **Value: 7** (Max = 10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment:** Surface contamination	1	**10** (Max = 10)

3.0 TARGETS

		Source	Value
3.1	**Nearest Population:** <1000 feet to nearest dwelling	1,4	**10** (Max = 10)
3.2	**Distance to [and name(s) of] nearest sensitive environment(s) [fisheries excluded]: 0** feet to nearest freshwater wetland	1,2,3,8	**7** (Max = 7)
3.3	**Population served within 0.5 miles:** Population = 32 residences x 2.3 = 74; √74 = 8.6	10	**8** (Max = 75)

4.0 RELEASE

Explain Basis for scoring a release to air: No confirmed release	Source: 1,2,3 **Value: 0** (Max = 5)

WORKSHEET 6
GROUNDWATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.2 Human Toxicity

	Substance	Drinking Water Standard (µg/L)	Value	Acute Toxicity (mg/ kg-bw)	Value	Chronic Toxicity (mg/kg/day)	Value	Carcinogenicity		Value
								WOE	PF*	
1	Arsenic	10	8	763	5	0.001	5	A	1.75	7
2	Antimony	3	8	7	10	0.0004	5	-	-	ND
3	Copper	1300	2	-	ND	0.037	1	-	-	ND
4	Lead	5	8	-	ND	0.001	3	-	-	ND

* *Potency Factor*

Source: 1,2,3,6,7

Highest Value: 10
(Max = 10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 12
(Max = 12)

1.2 Mobility (use numbers to refer to above listed substances)

Cations/Anions	OR	Solubility (mg/L)
1= 3		1= (All as per Table GW-5, WARM Scoring
2= 3		2= Manual, page GW-4)
3= 2		3=
4= 2		4=

Source: 1,6,7

Value: 3
(Max = 3)

1.3 Substance Quantity:

Explain basis: Unknown, use default = 1 : Unknown quantity of contaminated soil >5000 cubic yards

Source: 1,2,3,4,6,7

Value: 5
(Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment (explain basis):** Spill/discharge	1,2,3	**10** (Max = 10)
2.2	**Net precipitation:** 29.7"-5.6"= 24.1"	8	**3** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** Sandy loam = Hydraulic Conductivity of $>10^{-5}$ to 10^{-3} cm/sec	1,2,5	**3** (Max = 4)
2.4	**Vertical depth to groundwater:** <175 cm (i.e., 0 – 25 feet)	1,2,5	**8** (Max = 8)

3.0 TARGETS

		Source	Value
3.1	**Groundwater usage:** Public supply, alternate sources available	1,4,8	**4** (Max = 10)
3.2	**Distance to nearest drinking water well:** on-site	1,2,3,4	**5** (Max = 5)
3.3	**Population served within 2 miles:** approx >10,000	1,4,5	**100** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles:** none	1,2,3,4,6	**0** (Max = 50)

4.0 RELEASE

	Source	Value
Explain basis for scoring a release to groundwater: Unconfirmed release	1,3,4,5,6	**0** (Max = 5)

SOURCES USED IN SCORING

1. Kitsap Rifle & Revolver Club Integrated Site Assessment, US EPA Region 10, November 2011
2. Kitsap Rifle & Revolver Club Initial Investigation Field Report, Kitsap Public Health District, August 18, 2010
3. Site Hazard Assessment Pre Sampling and Sampling Site Visits – Heritage Park/Chico Creek Headwaters- Richard Bazzell and Grant Holdcroft, Kitsap Public Health District, May 24, 2012; June 4, 2012; June 6, 2012; and July 2, 2012.
4. ArcView GIS, Kitsap Public Health District, 2012
5. Internet Well Log Viewer, Washington State Department of Ecology, 2012
6. Toxicology Database for Use in Washington Ranking Method Scoring, Washington State Department of Ecology, January 1992
7. WARM Scoring Manual, Washington State Department of Ecology, April 1992.
8. Washington Climate – Net Rainfall Table
9. Drinking Water Systems Database, Kitsap Public Health District
10. Sentry Database for public water supplies, Washington State Department of Health
11. Soil Survey of Kitsap County, Washington, US Department of Agriculture, 1980

Figure 1.

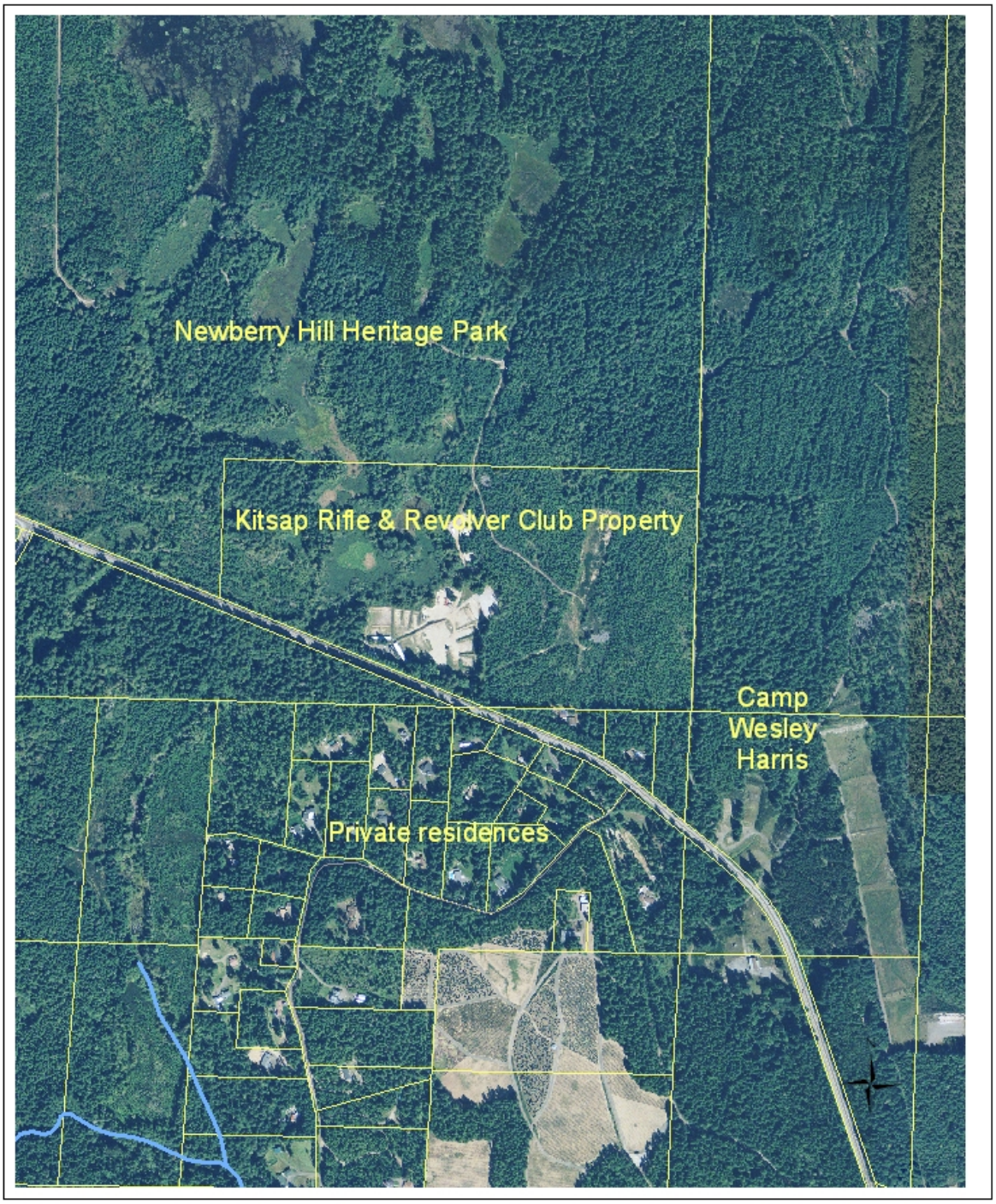
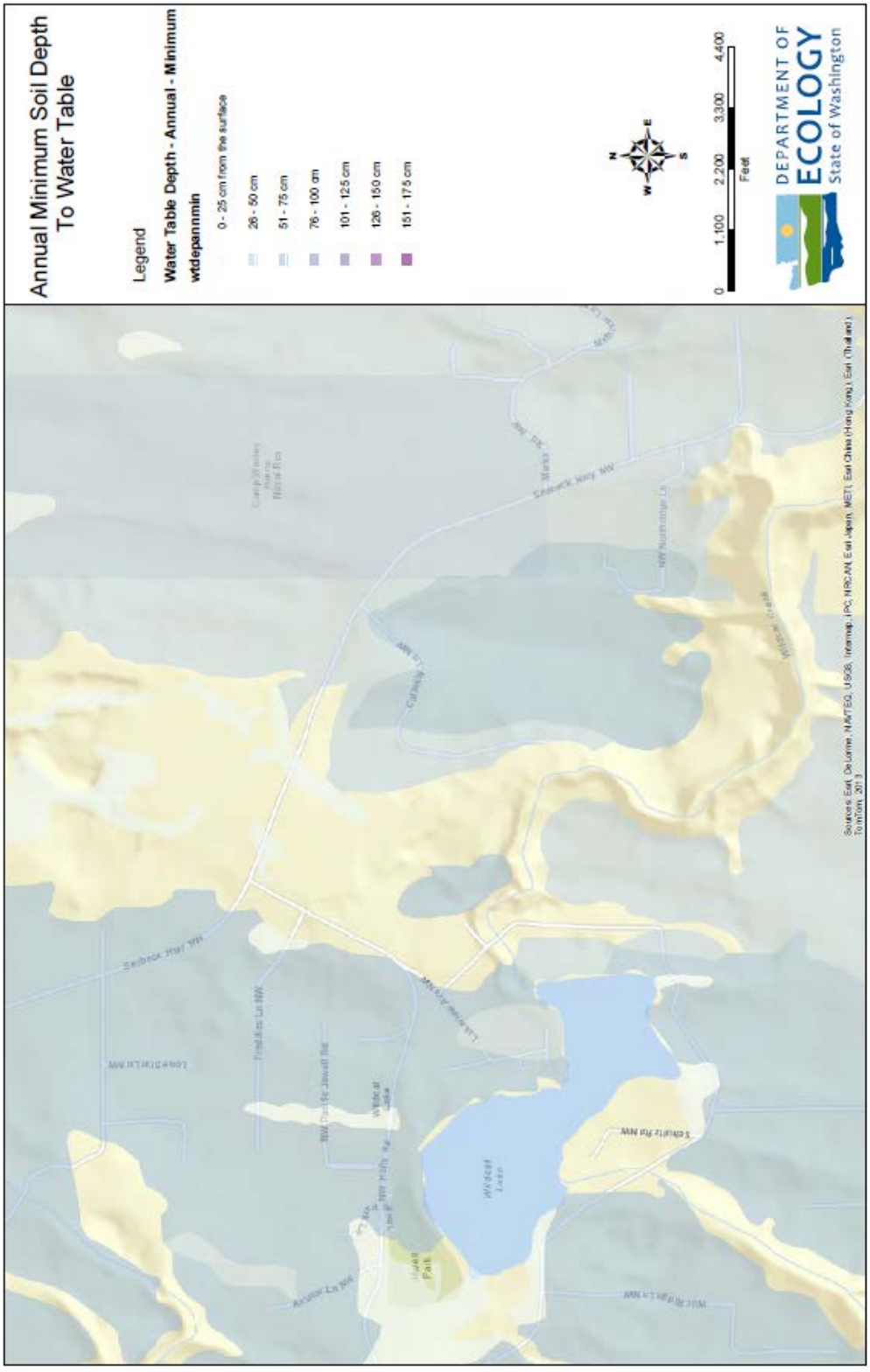

Newberry Hill Heritage Park
Kitsap Rifle & Revolver Club Property
Camp Wesley Harris
Private residences
N
GAH 7/30/2012
Kitsap Rifle & Revolver Club
Vicinity Map
0 180 360 720 1,080 1,440
Feet
KITSAP PUBLIC HEALTH DISTRICT

Figure 2.


Annual Minimum Soil Depth
To Water Table
Legend
Water Table Depth - Annual - Minimum
wtdepannmin
0 - 25 cm from the surface
26 - 50 cm
51 - 75 cm
76 - 100 cm
101 - 125 cm
126 - 150 cm
151 - 175 cm
0
1,100
2,200
3,300
4,400
Feet
DEPARTMENT OF
ECOLOGY
State of Washington

.

Figure 3.

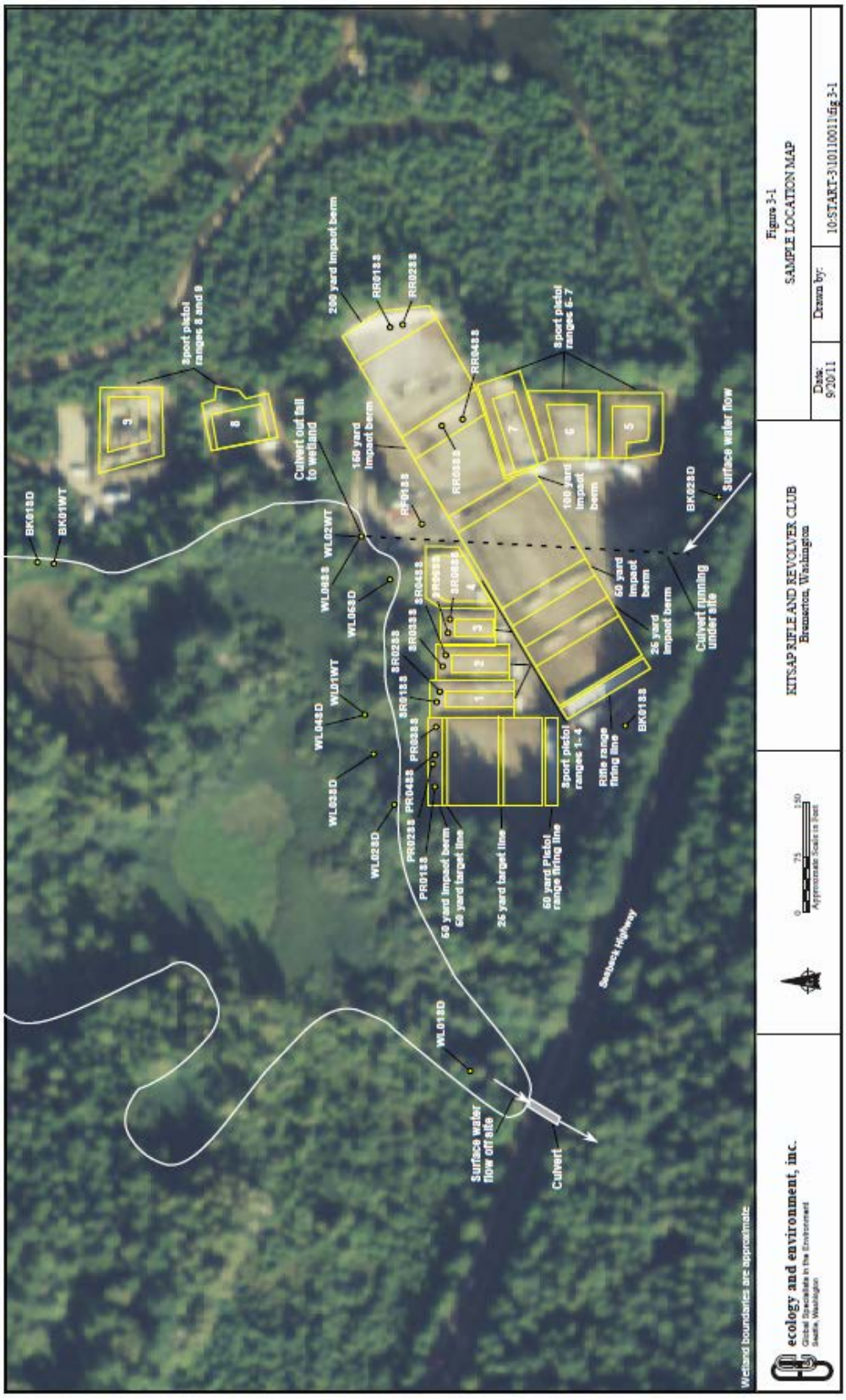


Figure 3-1
SAMPLE LOCATION MAP
KITSAP RIFLE AND REVOLVER CLUB
Bremerton, Washington
Date: 9/20/11
Drawn by:
10-START-3\10110011\fig 3-1
ecology and environment, inc.
Surface water flow off site
Culvert
Culvert out fall to wetland
Culvert running under site
Surface water flow
Sport pistol ranges 8 and 9
Sport pistol ranges 6- 7
Sport pistol ranges 1- 4
250 yard impact berm
160 yard impact berm
100 yard impact berm
60 yard impact berm
25 yard impact berm
60 yard impact berm
60 yard target line
25 yard target line
60 yard Pistol range firing line
Rifle range firing line
Silverdale Highway
Wetland boundaries are approximate.

Figure 4.

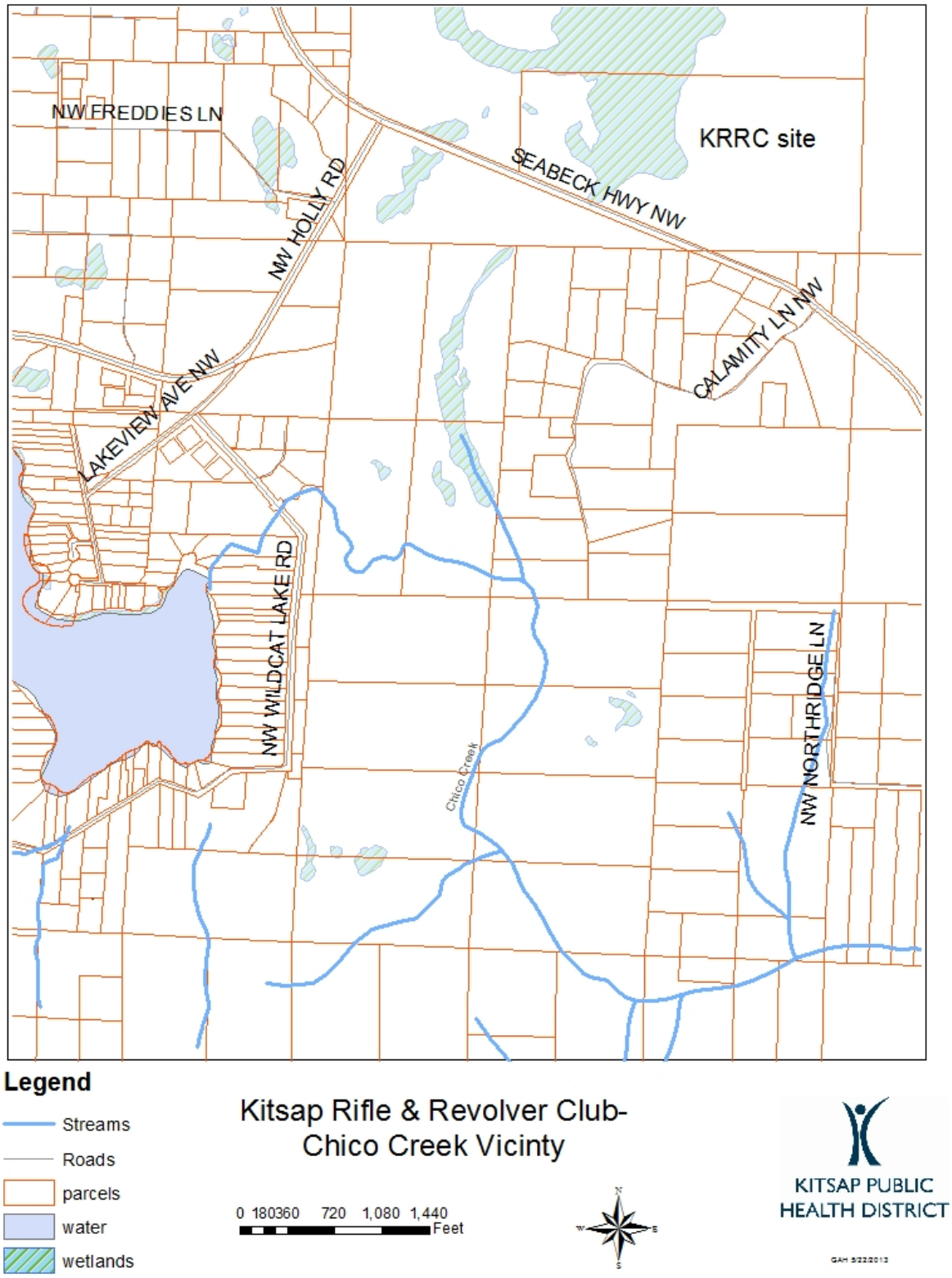

NW FREDDIES LN
KRRC site
SEABECK HWY NW
NW HOLLY RD
CALAMITY LN NW
LAKEVIEW AVE NW
NW WILDCAT LAKE RD
Chico Creek
NW NORTHRIDGE LN
Legend
Streams
Roads
parcels
water
wetlands
Kitsap Rifle & Revolver Club-
Chico Creek Vicinty
0 180360 720 1,080 1,440
Feet
KITSAP PUBLIC
HEALTH DISTRICT

Figure 5.

The Department of Ecology does NOT warranty the Data and/or the Information on this Well Report.

376926

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

DEPARTMENT OF ECOLOGY

Construction/Decommission *("x" in circle)*

☒ Construction

☐ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number

CURRENT 25-1W-36P

Notice of Intent No. W269953

Unique Ecology Well ID Tag No. BAT972

Water Right Permit No. N/A

Property Owner Name KITSAP RIFLE & REVOLVER CLUB

Well Street Address 4900 SEABECK HWY NW

City BREMERTON County KITSAP

Location SE1/4-1/4 SW1/4 Sec 36 Twn 25 R 1W (s, t, r Still REQUIRED) EWM ☐ Or WWM ☒

Lat/Long Lat Deg ____ Lat Min/Sec ____ Long Deg ____ Long Min/Sec ____

Tax Parcel No. (Required) 362501-4-002-1006

PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other

TYPE OF WORK: Owner's number of well (if more than one) ____

☒ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☐ Cable ☒ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 358 ft. Depth of completed well 358ft.

CONSTRUCTION DETAILS

Casing ☒ Welded 6" Diam. from +1 ft. to 358 ft.

Installed: ☐ Liner installed ____" Diam. from ____ ft. to ____ ft. ☐ Threaded ____" Diam. From ____ ft. to ____ ft.

Perforations: ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____

Materials placed from ____ ft. to ____ ft.

Surface Seal: ☒ Yes ☐ No To what depth? 18ft.

Material used in seal ____

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

PUMP: Manufacturer's Name GOULDS

Type: SUBMERSIBLE H.P. 2

WATER LEVELS: Land-surface elevation above mean sea level ____ ft

Static level 257.2ft. below top of well Date 04/15/10

Artesian pressure ____ lbs. per square inch Date ____

Artesian water is controlled by ____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☒ Yes ☐ No If yes, by whom? GRESHAM

Yield: 15gal./min. with 3.5ft. drawdown after 1+hrs.

Yield: ____gal./min. with ____ft. drawdown after ____hrs.

Yield: ____gal./min. with ____ft. drawdown after ____hrs.

Recovery data (time taken as zero when pump turned off (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
11MIN	FULL	RECOV			

Date of test 04/15/10

Bailer test ____ gal./min. with ____ft. drawdown after ____hrs.

Airest 20 gal./min. with stem set at 355ft. for 1hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? ☒ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
BROWN SAND AND GRAVEL	0	30
BLUE TILL	30	31
BROWN SAND AND GRAVEL	31	68
BLUE TILL	68	83
SAND AND GRAVEL	83	94
BROWN GRAVELLY CLAY	94	236
BROWN SAND	236	334
BLUE SILTY CLAY	334	349
GRAVEL, H20	349	358

RECEIVED
JUN 14 2010
Dept of Ecology
WR-NWRO

Start Date 03/18/10 Completed Date 03/24/10

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print) CRAIG A GRESHAM

Driller/Engineer/Trainee Signature

Driller or trainee License No. 0761

IF TRAINEE: Driller's License No:

Driller's Signature:

Drilling Company GRESHAM WELL DRILLING INC

Address P O BOX 1660

City, State, Zip POULSBO WA. 98370-0195

Contractor's Registration No. GRESHWD055BC Date 04/16/10

ECY 050-1-20 (Rev 02/10) *If you need this document in an alternate format, please call the Water Resources Program at 360 407-6872. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.*

Well Analytical Data

Twiss ANALYTICAL, INC.
26276 Twelve Tree Lane, Suite C
Poulsbo, WA 98370
(360) 779-5141

COLIFORM BACTERIA ANALYSIS

Date Sample Collected	Time Sample Collected	County
4/15/10 Month Day Year	2:56 ☐ AM ☐ PM	Kitsap

Type of Water System (check only one box)
☐ Group A Public ☐ Private Household
☐ Group B Public ☐ Other______

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):

ID# ______

System Name: Kitsap Rifle & Revolver Club

Contact Person: Gresham Well Drilling Inc

Day Phone: (360) 779-9323 Cell Phone: ( )

Eve. Phone: ( ) FAX: (360) 779-6077

Send results to: (Print full name, address and zip code)

GRESHAM WELL DRILLING INC.
P.O. BOX 1600
POULSBO, WA 98370-0195

SAMPLE INFORMATION

Sample collected by (name): Gresham Well Drilling Inc

Specific location where sample collected (address or sample site) (and type of faucet): [illegible]

Special instructions or comments: BAT-772

Type of Sample (must check only **one** box of #1 through #4 listed below)

1.☐ **Routine Distribution Sample**
Provide information below.
Chlorinated: Yes______ No______
Chlorine Residual: Total______ Free______

2.☐ **Repeat Sample (follow-up to an unsatisfactory sample)**
Provide information below.
Unsatisfactory routine lab number: ______
Unsatisfactory routine collect date: ___/___/___
Chlorinated: Yes______ No______
Chlorine Residual: Total______ Free______

3.☐ **Raw Water Source Sample**
Required for Surface Water, GWI, and some Spring Sources
S | | |
Public Systems must provide Source Number from (WFI)

4.☐ **Sample Collected for Information Only**
Construction______ Repairs______ Private Residence______ Other______

LAB USE ONLY **DRINKING WATER RESULTS** LAB USE ONLY

☐ **Unsatisfactory**
Total Coliform Present **and**
☐ E.coli present ☐ E.coli absent
☐ Fecal coliform present ☐ Fecal coliform absent

☐ **Satisfactory**

☐ **Replacement Sample Required**

Sample not tested because:
☐ Sample too old (>30 hours)
☐ Improper Container
☐

Test unsuitable because:
☐ TNTC
☐ Turbid culture
☐

Bacterial Density Results: Plate Count______/ml. E.coli______/100ml.
Total Coliform______/100ml. Fecal Coliform______/100ml.

Method Code: ______
MICR- 2730 1140 1340 2520

Date and Time Received: 4/15/10 4:10

Date Analyzed: 4/15/10

Date Reported: 4/16/10

010 57601
Sample Number (DOH number plus five digits)

Lab Use Only: 10457601

DOH Form #331-319 (revised 8/05)

TWISS ANALYTICAL LABORATORIES, INC.

26276 Twelve Trees Lane, Suite C Poulsbo, WA 98370 Telephone (360) 779-5141 FAX (360) 779-5150

IOC - LCR

IOC - LCR by Various EPA Approved Methods

Source / Point of Entry - Report of Analysis

Date Collected:	7/19/2010	Group:	
System ID No:	Private	System Name:	Kitsap Rifle and Revolver Club
Lab - Sample #:	01033002	County:	Kitsap
Sample Location:	4900 Seabeck Hwy	DOH Source No:	
Sample Purpose:	I	Date Received:	7/19/2010
Sample Composition:		Date Analyzed:	7/23/2010
Send Report To:	Gresham Well Drilling PO Box 1600 Poulsbo, WA 98370-0195	Date Reported:	8/4/2010
		Sample Type:	Pre-treatment/Raw
		Collected By:	GWD
		Phone Number:	
		Bill To:	Gresham Well Drilling PO Box 1600 Poulsbo, WA 98370-0195

DOH#	Analyte	Results	Units	SRL	Trigger	MCL*	MCL Exceeded	Method (Analyst Init.)
9	Lead	<(0.001)	mg/L	0.001				EPA 200.9 (KW)
23	Copper	<(0.02)	mg/L	0.02				EPA 200.7 (KW)

SRL: (State Reporting Level), indicates the minimum reporting level required by the Washington Department of Health (DOH).
Trigger Level: DOH Drinking Water response level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.
MCL: (Maximum Contaminant Level), If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.
NA: (Not Analyzed), in the results column indicates this compound was not included in the current analysis.
ND: (Not Detected), in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.
<(0.00x): indicates the compound was not detected in the sample at or above the concentration indicated.
* The 0.010 mg/L MCL for Arsenic is for Group A NTNC systems. All other systems should check with their county Health District to determine what level is applicable.

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IOC - SHORT

IOC - SHORT by Various EPA Approved Methods

Source / Point of Entry - Report of Analysis

Date Collected:	7/19/2010	Group:	
System ID No:	Private	System Name:	Kitsap Rifle and Revolver Club
Lab - Sample #:	01033002	County:	Kitsap
Sample Location:	4900 Seabeck Hwy	DOH Source No:	
Sample Purpose:	I	Date Received:	7/19/2010
Sample Composition:		Date Analyzed:	7/20/2010
Send Report To:	Gresham Well Drilling PO Box 1600 Poulsbo, WA 98370-0195	Date Reported:	8/4/2010
		Sample Type:	Pre-treatment/Raw
		Collected By:	GWD
		Phone Number:	
		Bill To:	Gresham Well Drilling PO Box 1600 Poulsbo, WA 98370-0195

DOH#	Analyte	Results	Units	SRL	Trigger	MCL*	MCL Exceeded	Method (Analyst Init.)
20	Nitrate-N	<(0.5)	mg/L	2	5	10		EPA 300.0 (KW)
21	Chloride	1.31	mg/L	20	250	250		EPA 300.0 (KW)
16	Conductivity	107	µS/cm	70	700	700		SM 2510 B (JS)
8	Iron	<(0.10)	mg/L	0.1	0.3	0.3		EPA 200.7 (KW)
10	Manganese	<(0.01)	mg/L	0.01	0.05	0.05		EPA 200.7 (KW)

SRL: (State Reporting Level), indicates the minimum reporting level required by the Washington Department of Health (DOH).
Trigger Level: DOH Drinking Water response level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.
MCL: (Maximum Contaminant Level), If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.
NA: (Not Analyzed), in the results column indicates this compound was not included in the current analysis.
ND: (Not Detected), in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL
< (0.00x): indicates the compound was not detected in the sample at or above the concentration indicated.
* The 0.010 mg/L MCL for Arsenic is for Group A NTNC systems. All other systems should check with their county Health District to determine what level is applicable.

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IOC - LCR

IOC - LCR by EPA Methods 200.9, 200.7

Distribution System - Report of Analysis

IOC - LCR			
System ID No:	Private	Group:	
DOH Source No:		System Name:	Kitsap Rifle & Revolver Club
Sample Purpose:	O	County:	Kitsap
		Date Received:	5/18/2010
		Date Analyzed:	5/21/2010
Send Report To:	Gresham Well Drilling PO Box 1600 Poulsbo, WA 98370-0195	Date Reported:	5/24/2010
		Bill To:	Gresham Well Drilling PO Box 1600 Poulsbo, WA 98370-0195

DOH #	Lead, mg/L	Copper, mg/L
SRL, mg/L	0.001	0.02
Trigger Level, mg/L	--	--
MCL, mg/L	*	*
Analytical Method (Analyst Init.)	EPA 200.9 KW	EPA 200.7 KW

Sample #	Date Collected	Sample Location	Lead, mg/L	Copper, mg/L
01039301	5/17/2010	Well House tap 4900 Seabeck Hwy	0.016	<(0.02)

* Lead has not been assigned an MCl, it has an 'Action Level' of 0.015 mg/L designated by EPA. Copper has not been assigned an MCl, it has an 'Action Level' of 1.3 mg/L designated by EPA.

SRL: (State Reporting Level), indicates the minimum reporting level required by the Washington Department of Health (DOH).

Trigger Level: DOH Drinking Water response level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.

MCL: (Maximum Contaminant Level), If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.

NA: (Not Analyzed), in the results column indicates this compound was not included in the current analysis.

ND: (Not Detected), in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL

< (0.00x): indicates the compound was not detected in the sample at or above the concentration indicated.

105393